

REMARKS

The present Amendment amends claims 1-7, 9, 11, 12, 14-17 and 19, leaves claims 8 and 10 unchanged and cancels claims 18 and 20. Therefore, the present application has pending claims 1-17 and 19.

Claims 1-4, 6, 9, 11, 16, 17 and 20 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. As indicated above, claim 20 was canceled. Therefore, this rejection with respect to claim 20 is rendered moot. Amendments were made to the remaining claims 1-4, 6, 9, 11, 16 and 17 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, Applicants submit that this rejection is overcome and should be withdrawn.

Specifically, amendments were made throughout claims 1-4, 6, 9, 11, 16 and 17 to overcome the objections noted by the Examiner in paragraphs 3-16 of the Office Action.

The Examiner's cooperation is respectfully requested to contact Applicants' Attorney by telephone should any further indefinite matter be discovered so that appropriate amendments may be made.

Applicants acknowledge the Examiner's indication in paragraphs 1 and 2 of the Office Action that claims 7 and 19 stand objected to as being dependent on a rejected base claim. Applicants also acknowledge the Examiner's indication in paragraph 30 of the Office Action that claims 12-15 would be allowable if rewritten to overcome the 35 USC §112, second paragraph rejection and to include all the limitations of the base claim and any intervening. Amendments were made to claims 12-15 to overcome the 35

USC §112, second paragraph rejection. Amendments were also made to claims 7, 12-15 and 19 to place them in independent form including all the limitations of the base claim and any intervening claims. Therefore, claims 7, 12-15 and 19 are allowable as indicated by the Examiner.

Applicants note that the Examiner did not reject claim 9 based upon prior art. Amendments were made to claim 9 to overcome the 35 USC §112 rejection. Thus, since there are no other rejections of claim 9, claim 9 is now in condition for allowance. Therefore, an indication of allowance of claim 9 is respectfully requested.

Claims 1, 2, 4, 8, 10, 11, 16-18 and 20 stand rejected under 35 USC §102(e) as being anticipated by Soejima (U.S. Patent Application Publication No. 2004/0123180); claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Soejima and claim 5 stands rejected under 35 USC §103(a) as being unpatentable over Soejima in view of Kaneda (U.S. Patent Application Publication No. 2005/0022201).

It is noted that Soejima only qualifies as prior art under 35 USC §102(e) and as such in accordance with 35 USC §103(c) shall not preclude patentability of the invention claimed in the present application under 35 USC §103 when the subject matter of Soejima and the claimed invention were, at the time the claimed invention made, owned by the same person (entity) or subject to an obligation of assignment to the same entity. The present application as per the Assignment recorded on July 20, 2004 at Reel 015586 and Frame 0850 is assigned to Hitachi, Ltd., the same entity to which Soejima was assigned by way of the Assignment filed during the prosecution of the Soejima application Serial No. 10/651,166, filed August 29, 2003 and

recorded on January 1, 2003 at Reel 014745 and Frame 0940. Thus, the present application and Soejima were, at the time the claimed invention of the present application was made owned by or subject to an obligation of an assignment to the same entity, namely Hitachi, Ltd.

Based on the above, Soejima is not an appropriate reference to be used for obviousness type purposes under 35 USC §103 to reject the claims of the present application. Thus, the 35 USC §103(a) rejection of claim 3 as being unpatentable over Soejima and the 35 USC §103(a) rejection of claim 5 as being unpatentable over Soejima in view of Kaneda fail being that Soejima cannot be used for obviousness type purposes to reject the claims of the present application in accordance with 35 USC §103(c). Therefore, reconsideration and withdrawal of these rejections of claims 3 and 5 is respectfully requested.

It should be noted that claims 3 and 5 are dependent claims each depending from claim 1. Amendments were made to claims 3 and 5 to place them in independent form including all the limitations of the base claim and any intervening claims so as permit early allowance thereof. An indication that claims 3 and 5 are allowed is respectfully requested.

With respect to the remaining rejection of claims 1, 2, 4, 8, 10, 11, 16 and 17 under 35 USC §102(e) as being anticipated by Soejima this rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1, 2, 4, 8, 10, 11, 16 and 17 are not taught or suggested by Soejima whether taken individually or in combination with any of the other references of record. Therefore,

Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

It should be noted that various amendments were made throughout claims 1, 2, 4, 8, 10, 11, 16 and 17 so as to more clearly describe features of the present invention not taught or suggested by any of the references of record particularly Soejima. It is noted that Soejima was used to reject the claims prior to the present amendment, and the claims were amended so as to distinguish the subject matter being claimed from that taught by Soejima. Since the claims have been amended in this manner the Examiner is reminded that Soejima cannot be used for obviousness type purposes to reject the claims of the present application in accordance with 35 USC §103(c). Thus, it would appear that the Examiner must find another reference in order to reject the claims under 35 USC §103 once the Examiner acknowledges that the 35 USC §102(e) rejection should be withdrawn.

As per the above, amendments were made to the claims so as to more clearly describe features of the present invention. Particularly, amendments were made to the claims to more clearly recite that the present invention provides a method of managing volumes of a plurality of storage systems, by a management computer connected via a first network to the plurality of storage systems having volumes connected to a computer via a second network and storing data used by the computer.

According to the present invention the method includes keeping a correspondence between each value of a level and characteristic information related to characteristics of each volume to be provided by a storage system including the volume, obtaining from a first storage system a first value of a

level indicating characteristic information of a first volume having been provided to the computer by the first storage system and referencing the characteristic information corresponding to the first value among the plurality of storage systems.

Further, according to the present invention the method includes comparing referenced characteristic information among the plurality of storage systems against each other.

The above described features of the present invention are illustrated, for example, in Figs. 4a and b of the present application. Figs. 4a and b show the correspondence between each value of a level (hint) and characteristic information (access bandwidth, storage cost, data availability) related to characteristics of a volume to be provided by a storage system. The steps of the method of the present invention are illustrated, for example, in the flowchart of Fig. 16 of the present application. Fig. 16 shows the obtaining and referencing steps as step 16060 and the comparing step as step 16070.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record particularly Soejima whether taken individually or in combination with each other.

Soejima teaches a method and apparatus for adjusting performance of logical volume copied destinations. As per by Soejima it is determined during a copy process whether or not or both of two specified conditions are satisfied for a set of volumes. The first condition is whether the performance of the destination volume after failover is equal to or higher than the performance of the source volume before the failover. The second condition is whether the

performance of the destination volume is equal to or higher the performance of the source volume during the copy operation. As per Soejima, if the conditions are not satisfied, the storage apparatus in which the destination volume is defined is changed in its configuration so as to satisfy the conditions.

However, Soejima does not teach or suggest the above described features of the present invention as now more clearly recited in the claims. Particularly, Soejima does not teach or suggest the comparing of characteristic information having the same value for a level among a plurality of storage systems as in the present invention.

Thus, Soejima fails to teach or suggest keeping a correspondence between each value of a level and characteristic information related to characteristics of each volume to be provided by a storage system including the volume and obtaining from a first storage system a first value of a level indicating characteristic information of a first volume having been provided to the computer by the first storage system as recited in the claims.

Further, Soejima fails to teach or suggest referencing the characteristic information corresponding to the first value among the plurality of storage systems and comparing the referenced characteristic information among the plurality of storage systems against each other as recited in the claims.

Therefore, Soejima fails to teach or suggest the features of the present invention as now more clearly recited in claims 1, 2, 4, 8, 10, 11, 16 and 17. Accordingly, reconsideration and withdrawal of the 35 USC §102(e) rejection of claims 1, 2, 4, 8, 10, 11, 16 and 17 as being anticipated by Soejima is respectfully requested.


The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1, 2, 4, 8, 10, 11, 16 and 17.

In view of the foregoing amendments and remarks, applicants submit that claims 1-17 and 19 are in condition for allowance. Accordingly, early allowance of claims 1-17 and 19 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (501.43788X00).

Respectfully submitted,

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